(b) If one makes the manganese content of the charge not under 3 per cent, it is possible to blow a metal in a basic Bessemer converter, which without further additions is not red-short, and which works well.
(c) The same is able to be achieved in the basic open-hearth furnace. Here, however, one can also add the metallic manganese by means of the oxygen compounds of the same. But in this case, one must specially take care that at the end of the decarbonisation the slag is so poor in oxygen that reduction of manganese from the slag must be compelled to result.
(d) Oxygen penetrates into the iron from a slag rich in oxides in the greater amounts, the more the content of reducing agents in the same is lowered. The metal will thereby become unfit for any working, and must then be regenerated by means of deoxidation, to be discussed later.
(/) COMPOSITION AND PiiovEimifis OF TIIK SLAG. (1) Content of Metallic, Oxides in the Klay.
The composition of the slag under the influence of the metal is other than that which is determined by the action of iron oxide on the furnace structure.
Unfortunately, very little has been written about the first slags which originate on .the melting down of iron in basic open-hearth furnaces ; the only communication which the author has at disposal is duo to F. W. Harbord of Bilston ("St. u. E.," 1880, p. 812). lie employed a charge of 67 per cent, pig iron and 30 per cent, steel scrap and 8 per cent. spiegeloisen, and investigated the slag I. which had formed itself before the melting down of the metal, and the slag II. which was given rise to after about one-third of the charge was melted down.
He obtained the following figures :—

Nlfttf I.		Hliitf II.	
Si(')a	8"5 por cout	Not givon.	
Fo<|()8	4-3 ,,	-1-2	] Kir cent.
FoO	(J3'() „	5247	„

One sees that the chief constituent of the Blag is ferrpus oxide which is derived from scale, and is dissolved in iron silicate.